Complete Summary

GUIDELINE TITLE

Immune reconstitution inflammatory syndrome (IRIS) in HIV-infected patients.

BIBLIOGRAPHIC SOURCE(S)

New York State Department of Health. Immune reconstitution inflammatory syndrome (IRIS) in HIV-infected patients. New York (NY): New York State Department of Health; 2009 Aug. 10 p. [31 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

- Human immunodeficiency virus (HIV) infection
- Immune reconstitution inflammatory syndrome (IRIS)

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Prevention
Risk Assessment
Treatment

CLINICAL SPECIALTY

Allergy and Immunology
Family Practice
Infectious Diseases
Internal Medicine

INTENDED USERS

Advanced Practice Nurses
Health Care Providers
Nurses
Physician Assistants
Physicians
Public Health Departments

GUIDELINE OBJECTIVE(S)

To provide guidelines for the diagnosis and treatment of immune reconstitution inflammatory syndrome (IRIS) in human immunodeficiency virus (HIV)-infected patients

TARGET POPULATION

Human immunodeficiency virus (HIV)-infected patients with immune reconstitution inflammatory syndrome (IRIS)

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis/Evaluation/Prevention

1. Signs and symptoms of immune reconstitution inflammatory syndrome (IRIS)
2. CD4 cell counts
3. Transaminase levels prior to initiation of antiretroviral (ARV) therapy in patients with hepatitis B or C
4. Dilated ophthalmologic examination in patients with cytomegalovirus (CMV)

Management/Treatment

1. Initiation of antiretroviral therapy in patients recovering from acute opportunistic infection
2. Treatment of opportunistic infection
3. Symptomatic treatment
4. Supportive care
5. Prednisolone
6. ARV therapy interruption in severe cases only

MAJOR OUTCOMES CONSIDERED

- Incidence of immune reconstitution inflammatory syndrome (IRIS)
- Opportunistic infection
- Morbidity
- Mortality

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Committee)
Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Quality of Evidence for Recommendation

I. One or more randomized trials with clinical outcomes and/or validated laboratory endpoints
II. One or more well-designed, nonrandomized trials or observational cohort studies with long-term clinical outcomes
III. Expert opinion

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

AIDS Institute clinical guidelines are developed by distinguished committees of clinicians and others with extensive experience providing care to people with

human immunodeficiency virus (HIV) infection. Committees* meet regularly to assess current recommendations and to write and update guidelines in accordance with newly emerging clinical and research developments.

The Committees* rely on evidence to the extent possible in formulating recommendations. When data from randomized clinical trials are not available, Committees rely on developing guidelines based on consensus, balancing the use of new information with sound clinical judgment that results in recommendations that are in the best interest of patients.

* Current committees include:

- Medical Care Criteria Committee
- Committee for the Care of Children and Adolescents with HIV Infection
- Dental Standards of Care Committee
- Mental Health Guidelines Committee
- Committee for the Care of Women with HIV Infection
- Committee for the Care of Substance Users with HIV Infection
- Physician's Prevention Advisory Committee
- Pharmacy Advisory Committee

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Strength of Recommendation

A. Strong recommendation for the statement
B. Moderate recommendation for the statement
C. Optional recommendation

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

All guidelines developed by the Committee are externally peer reviewed by at least two experts in that particular area of patient care, which ensures depth and quality of the guidelines.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions for the quality of the evidence (I, II, III) and strength of recommendation (A-C) are provided at the end of the "Major Recommendations" field.

Caution and clinical judgment are required when implementing these guidelines because no prospective or randomized trials of treatments for immune reconstitution inflammatory syndrome (IRIS) exist; therefore, the recommendations here are based on small case series and expert opinion.

Deciding When to Initiate Antiretroviral (ARV) Therapy in Patients with Recent Opportunistic Infections (OIs)

Clinicians should strongly recommend that patients recovering from acute OIs initiate ARV therapy as soon as tolerability has been established and the potential for drug-drug interactions has been minimized (see the National Guideline Clearinghouse [NGC] summary of the New York State Department of Health [NYSDoH] guideline Antiretroviral Therapy).

Key Point

Although the risk for tuberculosis immune reconstitution inflammatory syndrome (TB-IRIS) may be as high as 32% in severely immunocompromised patients, the overall mortality associated with delayed initiation of ARV therapy in these patients is greater than any potential risk of death resulting from IRIS.

Presentation and Diagnosis

Clinicians should consider IRIS when inflammatory signs or symptoms occur after recent initiation, re-initiation, or change to a more effective combination ARV therapy with associated increase in CD4 cell count and/or decrease in viral load *and* the following have been *excluded*:

- Worsening of known infections due to inadequate or inappropriate therapy **(AIII)**
- New infections not known to be associated with IRIS (e.g., bacterial sepsis) **(AIII)**
- Medication reaction **(AIII)**

Refer to Table 1 in the original guideline document for information on major and minor presentations of IRIS.

Prevention of Complications of IRIS

Clinicians should be alert to the possibility of IRIS as CD4 cell counts are restored after initiation of ARV therapy. **(AIII)**

After initiation of ARV therapy, human immunodeficiency virus (HIV)-infected patients with a history of cytomegalovirus (CMV) retinitis should be monitored for possible IRIS by dilated ophthalmologic examination:

- Every 3 months for the first year after initiation of ARV therapy **(AIII)**
- Immediately if there is a change in visual acuity or development of floaters **(AIII)**

For HIV-infected patients who are co-infected with hepatitis B or C, clinicians should measure transaminase levels:

- Before initiation of ARV therapy **(AI)**
- Monthly for the first 3 months after initiation of ARV therapy to monitor for possible immune reconstitution inflammatory syndrome **(AIII)**

Management and Treatment

Clinicians should initiate symptomatic treatment and supportive care for patients with IRIS. In severe cases, clinicians should consider prescribing prednisone 1-2 mg/kg or equivalent for 1-2 weeks, followed by a taper. **(AIII)**

Clinicians should closely monitor patients receiving corticosteroids for the development of opportunistic infections, including CMV retinitis and TB disease. **(AIII)**

Except in severe cases, ARV therapy should not be interrupted in patients with IRIS. **(AIII)**

Definitions:

Level of Evidence

I. One or more randomized trials with clinical outcomes and/or validated laboratory endpoints
II. One or more well-designed, nonrandomized trials or observational cohort studies with long-term clinical outcomes
III. Expert opinion

Grade of Recommendation

A. Strong recommendation for the statement
B. Moderate recommendation for the statement
C. Optional recommendation

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is classified for selected recommendations (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate management of immune reconstitution inflammatory syndrome (IRIS) in human immunodeficiency virus (HIV)-infected patients

POTENTIAL HARMS

- Risks of corticosteroid therapy include:
  - Hyperglycemia
  - Hypertension
  - Mental status changes
  - Worsening of an existing infection
  - Predisposition to a new infection
- Risks of stopping combination antiretroviral (ARV) therapy include human immunodeficiency virus (HIV) resistance, acquisition of new opportunistic infections (OIs), and recurrence of immune reconstitution inflammatory syndrome (IRIS) when therapy is later restarted.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- When formulating guidelines for a disease as complex and fluid as human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS), it is impossible to anticipate every scenario. It is expected that in specific situations, there will be valid exceptions to the approaches offered in these guidelines and sound reason to deviate from the recommendations provided within.
- Caution and clinical judgment are required when implementing these guidelines because no prospective or randomized trials of treatments for immune reconstitution inflammatory syndrome (IRIS) exist; therefore, the recommendations here are based on small case series and expert opinion.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The AIDS Institute's Office of the Medical Director directly oversees the development, publication, dissemination and implementation of clinical practice guidelines, in collaboration with The Johns Hopkins University, Division of Infectious Diseases. These guidelines address the medical management of adults, adolescents and children with HIV infection; primary and secondary prevention in medical settings; and include informational brochures for care providers and the public.

The HIV Clinical Guidelines Program works with other programs in the AIDS Institute to promote adoption of guidelines. Clinicians, for example, are targeted through the Clinical Education Initiative (CEI) and the AIDS Education and

Training Centers (AETC). The CEI provides tailored educational programming on site for health care providers on important topics in HIV care, including those addressed by the HIV Clinical Guidelines Program. The AETC provides conferences, grand rounds and other programs that cover topics contained in AIDS Institute guidelines.

Support service providers are targeted through the HIV Education and Training initiative which provides training on important HIV topics to non-physician health and human services providers. Education is carried out across the State as well as through video conferencing and audio conferencing.

The HIV Clinical Guidelines Program also works in a coordinated manner with the HIV Quality of Care Program to promote implementation of HIV guidelines in New York State. By developing quality indicators based on the guidelines, the AIDS Institute has created a mechanism for measurement of performance that allows providers and consumers to know to what extent specific guidelines have been implemented.

Finally, best practices booklets are developed through the HIV Clinical Guidelines Program. These contain practical solutions to common problems related to access, delivery or coordination of care, in an effort to ensure that HIV guidelines are implemented and that patients receive the highest level of HIV care possible.

IMPLEMENTATION TOOLS

Staff Training/Competency Material

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

New York State Department of Health. Immune reconstitution inflammatory syndrome (IRIS) in HIV-infected patients. New York (NY): New York State Department of Health; 2009 Aug. 10 p. [31 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2009 Aug

GUIDELINE DEVELOPER(S)

New York State Department of Health - State/Local Government Agency [U.S.]

SOURCE(S) OF FUNDING

New York State Department of Health

GUIDELINE COMMITTEE

Medical Care Criteria Committee

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available from the New York State Department of Health AIDS Institute Web site.

AVAILABILITY OF COMPANION DOCUMENTS

A continuing medical education (CME) activity is available at the New York State Department of Health AIDS Institute Web site.

PATIENT RESOURCES

None available

NGC STATUS

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Date Modified: 5/10/2010